

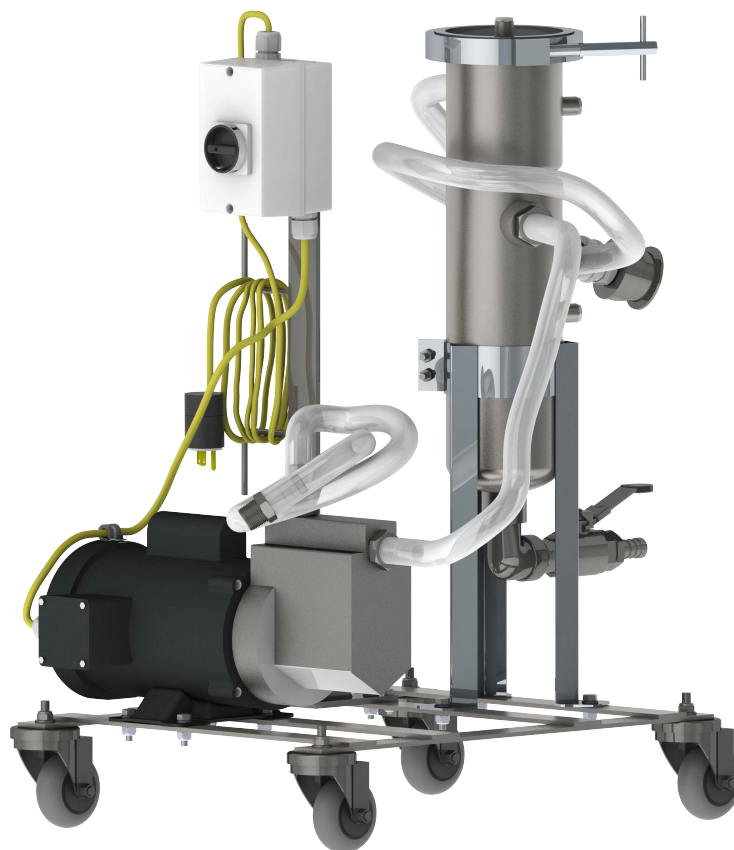
Model No.

Serial No.

Filter No.

Start-Up Date

## ❖ MXR330 RECIRCULATION SYSTEM



**Version: 1.0 1/19/24**

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## I. --- Warranty

RUWAC warrants that new equipment which are complete units and are sold and/or manufactured by RUWAC, Inc. will be free from defects in material and workmanship for a period of 18 months from date of shipment or 12 months from date of start-up, whichever come first. RUWAC warrants that replacement parts sold hereunder will be free from defects in material or workmanship for a period of 120-days after the date of shipment. RUWAC machines that have been completely re-built at the factory will carry a 180-day warranty from date of shipment. All field repairs preformed by authorized RUWAC service personnel are covered by a 120-day parts only warranty.

RUWAC, Inc. will not assume any responsibility under the terms of this limited warranty on equipment, which has not been paid in full. This warranty does not apply to any equipment that has been disassembled, repaired, or otherwise altered by any person without the written authorization of RUWAC'S service department, nor does it apply to any product that has been subjected to failure sure to corrosive or abrasive attack, misused, damaged, or improperly installed, nor does it apply to motors, controls, and components not manufactured by RUWAC, Inc. Motors, controls, and other Sub vendor's components therefor are warranted only to the extent of the manufacture's warranty. All warranty work on such products must be authorized by RUWAC, Inc. and must be performed in an authorized shop as designated by the manufacturer. RUWAC sole liability and buyer's sole and exclusive remedy hereunder is the replacement or repair at RUWAC'S option of products not complying with this warranty. Such repair or replacement shall be F.O.B. RUWAC'S factory, and RUWAC reserves the right to invoice all expenses incurred when repairs are made in the field at the request of the customer, except as specifically set forth herein, RUWAC makes no warranty express or implied, with respect to the products and/or service supplied hereunder, this warranty is in lieu of and excludes all other warranties, including without limitation, any warranty of merchantability, fitness for a particular purpose, or conformance to purchaser's specifications.

## II. --- Safety

**CAUTION:** Always check that the motor is rotating in the indicated direction (clockwise) upon start-up. Power polarity can change from power supply to power supply. Operation under a reversed polarity will damage the motor.

**CAUTION:** Disconnect the machine from the power source before and during inspection and/or maintenance.

**CAUTION:** The components in this machine can be very heavy. Always follow safe lifting procedures.

**CAUTION:** Allow at least three feet of clearance space above the unit to safely remove or install components.

**CAUTION:** Make absolutely sure that there are no unsecured objects after maintenance or inspection. Catastrophic failure is likely to occur if an object passes through the unit while running.

**CAUTION:** The MXR330 system is designed for the recirculation of sensitive ultra-fine materials.

**CAUTION:** The electrical service at the installation site must supply the voltage stamped on the machine's serial tag. Most motors have multiple voltage capabilities that may appear on the motor serial tag but do not apply to the machine. Operating at an incorrect voltage may damage the machine.

**CAUTION:** Only Ruwac accessories should be used alongside your MXR330 unit. Using any other accessories will compromise the grounding of your machine, potentially rendering it defenseless against safe collecting of combustible dust and creating a dangerous environment.

**CAUTION:** Perform a ground continuity test on your MXR330 unit before each use.

**CAUTION:** Per current NFPA 484 guidelines this machine is equipped with a method of grounding/bonding that is independent of the facility electrical system.

**CAUTION:** Before each use, the operator must perform a continuity test using line ground, additional mandatory grounds and any/all accessories that are connected to the machine.

## **IMPORTANT SAFETY INSTRUCTIONS**

When using an electrical appliance, basic precautions should always be followed, including the following.

### **READ ALL INSTRUCTIONS BEFORE USING THIS APPLIANCE**

**The MXR330 is designed specifically for the use with the Ruwac's MX Series Vacuums.**

**WARNING** - To reduce the risk of fire, electric shock or injury:

1. Do not leave the unit when plugged in. Unplug from outlet when not in use and before servicing.
2. Do not use outdoors or on wet surfaces.
3. Use only as described in the manual. Use only manufacturer recommended attachments.
4. Do not use with damaged cord or plug. If the unit is not working as it should, has been dropped, damaged, left outdoors, or dropped into water, contact Ruwac for service.
5. Do not pull or carry by cord, use cord as a handle, close a door on cord, or pull cord around sharp edges or corners. Do not run the unit over cord. Keep cord away from heated surfaces.
6. Unplug by grasping the plug. Do not pull on cord to unplug.
7. Do not handle plug or appliance with wet hands.
8. Do not put any objects into openings. Do not use with any opening blocked; Keep free of dust, lint, hair, and anything that may reduce air flow.
9. Keep hair, loose clothing, fingers, and all parts of body away from openings.
10. The unit should be turned off before unplugging.
11. The MXR330 must be connected to the proper voltage, phase and frequency as stated on the equipment label.

**SAVE THESE INSTRUCTIONS**



## **IMPORTANT SAFETY INSTRUCTIONS (cont'd)**

When using an electrical unit, basic precautions should always be followed, including the following.

### **READ ALL INSTRUCTIONS BEFORE USING THIS APPLIANCE**

12. Pay special attention to the reactive properties of the material. Ensure that the material is not reactive with other materials present in the machine or its materials of construction. Check your MSDS carefully for special hazards.
13. Do not operate the MXR330 unit with missing or damaged filters.
14. Inspect the MXR330 unit for visible damage, especially to the power cord and cord cap. If damaged, the MXR330 unit must be removed from service and repaired prior to use.
15. Use only Ruwac replacement parts, accessories and hoses specifically designed for your machine.
16. The MXR330 is a continuous duty recirculation system with casters provided for easy transportation and emptying.
17. The MXR330 unit is supplied with a 20 foot power cord. If using an extension cord, ensure that the cord is sized properly to safeguard against voltage drop.
18. Connect to a properly grounded outlet only. See Grounding Instructions.
19. When the MXR330 unit is in use, be careful that the cord is not laying in an area where it can be rolled over and / or tripped on. Do not lay the cord in a wet area.
20. When not using the MXR330 unit, coil the cord so that it is completely off the ground. Do not store outdoor. Unplug the MXR330 unit from the power source when not being used or when being serviced.
21. The serial # of your MXR330 unit contains information to identify when your unit was manufactured. Please have your serial # ready when contacting Ruwac about your unit.

## **SAVE THESE INSTRUCTIONS**

## IMPORTANT SAFETY INSTRUCTIONS (cont'd)

### READ ALL INSTRUCTIONS BEFORE USING THIS APPLIANCE

The MXR330 is designed specifically for the use with the Ruwac's MX Series Vacuums.

## CAUTION!

### TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, OR INJURY

1. Make sure that the MXR330 unit is connected to the proper voltage, phase and frequency as stated on the equipment label.
2. Pay special attention to the reactive properties of the material being recirculated. Insure that the material is not reactive with other materials present in the machine or its materials of construction. Check your MSDS carefully for special hazards.
3. Do not operate the MXR330 unit with missing or damaged filters.
4. Inspect the MXR330 unit for visible damage, especially to the power cord and cord cap. The unit must be removed from service and repaired prior to use.
5. Connect to grounded dedicated circuits only.
6. Do not use the power cord to move the MXR330 unit.
7. The MXR330 unit is not designed for outside use or use in wet application. To reduce risk of electric shock, do not use on wet surfaces. Do not expose to rain, store indoors.
8. The MXR330 unit should be emptied after each use and cleaned daily. Do not store the MXR330 unit with process material.
9. Use only Ruwac replacement parts, accessories and hoses specifically designed for your machine.
10. Do not use with flammable liquids, vapors or on solids contaminated with flammable liquids.
11. Disconnect electrical supply before servicing or replacing filter.
12. If connected to a circuit protected by fuses, use time delay fuses marked type "D" with this appliance.
13. Any modifications to this unit voids warranty.
14. Do not install where the maximum temperature exceeds the ignition temperature of the hazardous atmosphere(s).
15. To prevent ignition of hazardous atmospheres, disconnect from the power supply circuit before opening enclosure. Keep tightly closed while circuit are live.

## SAVE THESE INSTRUCTIONS

## **IMPORTANT SAFETY INSTRUCTIONS (cont'd)**

### **READ ALL INSTRUCTIONS BEFORE USING THIS APPLIANCE**

#### **WARNING:**

The electrical service at the installation site must supply the voltage stamped on the machines serial tag. Most motors have multiple voltage capabilities that may appear on the motor serial tag but do not apply to the specific machine. Operating at an incorrect voltage may damage the machine. The machine should be connected to a dedicated fused service and properly grounded.

#### **WARNING:**

A qualified electrician in accordance to the NATIONAL ELECTRIC CODE and all local codes should perform all wiring and or electrical adjustments during installation and servicing.

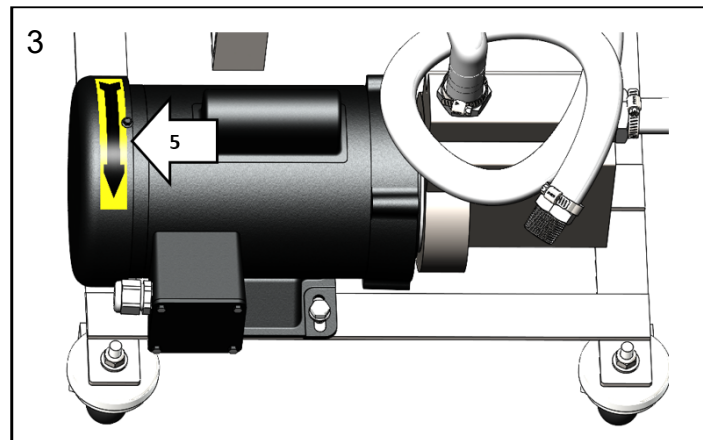
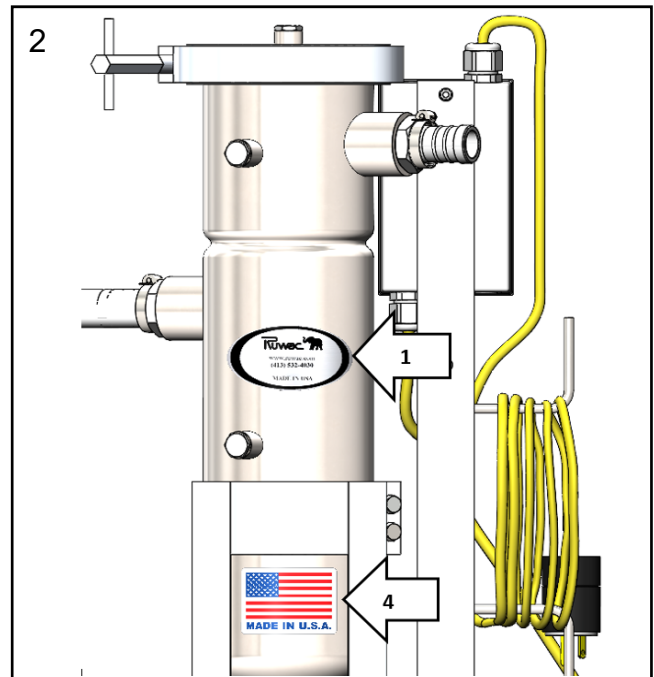
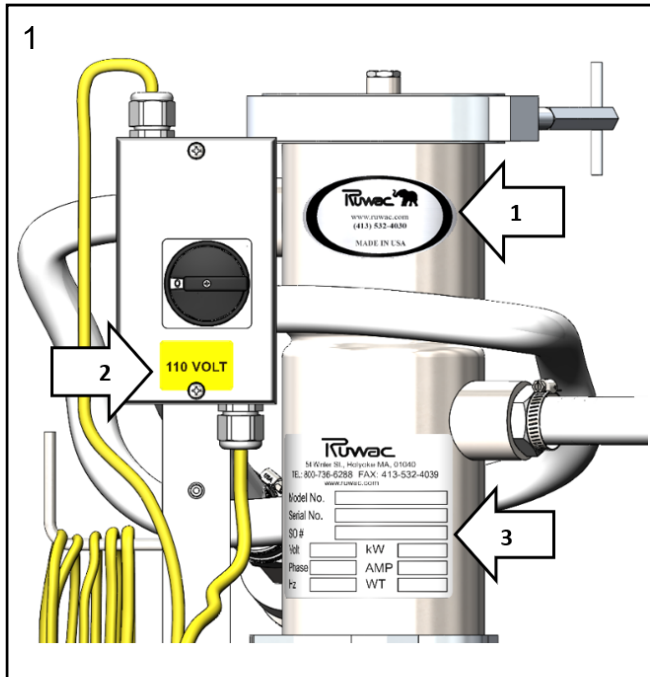
1. Install the proper cord cap on the power cable following the manufacturer's instructions. Insure that all terminal screws are properly tightened.
2. Start the machine by turning the selector to the ON position noting the motor direction. If the motor is turning in the wrong direction, shut the machine off by turning the selector to the OFF position. Have your electrician rewire the cord cap to correct the motor rotation.

#### **WARNING:**

**When using the MXR unit in another location, always verify motor rotation before placing the unit into service.**

## **SAVE THESE INSTRUCTIONS**

## IMPORTANT SAFETY INSTRUCTIONS (cont'd)



1. Ruwac OVAL Decal (Both Sides)
2. Voltage Sticker (Use Appropriate)
3. Serial Tag
4. Made In the USA
5. Motor Direction Arrow (Clockwise)

**SAVE THESE INSTRUCTIONS**

## GROUNDING INSTRUCTIONS

This unit must be grounded. If it should malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This unit is equipped with a cord having an equipment-grounding conductor and grounding plug. The plug must be inserted into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.

**DANGER:** Improper connection of the equipment-grounding conductor can result in a risk of electric shock. The conductor with insulation having an outer surface that is green with or without yellow stripes is the equipment-grounding conductor. If repair or replacement of the cord or plug is necessary, do not connect the equipment-grounding conductor to a live terminal. Check with a qualified electrical technician if the grounding instructions are not completely understood, or if in doubt as to whether the unit is properly grounded. Do not modify the plug if provided with the unit. Make sure the outlet is properly installed by a qualified electrical technician if it does not fit the outlet.

This unit is factory-equipped with a specific electric cord and plug to permit connection to a proper electric circuit. Make sure that the unit is connected to an outlet having the same configuration as the plug. No adapter should be used with this unit. If the unit must be reconnected for use on a different type of electric circuit, the reconnection should be made by licensed/certified electrician only; after the reconnection, the unit should comply with all local codes and ordinances.

GROUNDING INSTRUCTIONS

ABOUT RUWAC'S MXR330 UNIT AND GROUND:

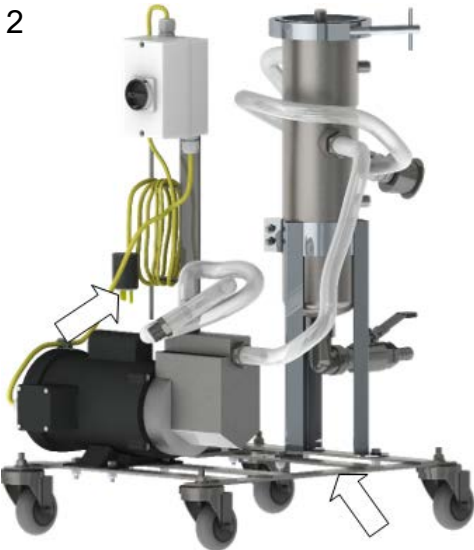
- A STANDARD OHMMETER CAN CONFIRM PROPER GROUND. SEE PICTURES BELOW

GROUNDING

The following is a list of items that should periodically be checked for continuity.



The ground reel cable from the MX series unit to the frame of the MXR330.



Power cord line ground to the frame.

**\*\* To check continuity of any carbon impregnated components, use a Megohmmeter. The resistance rating should be less than 1MΩ.**

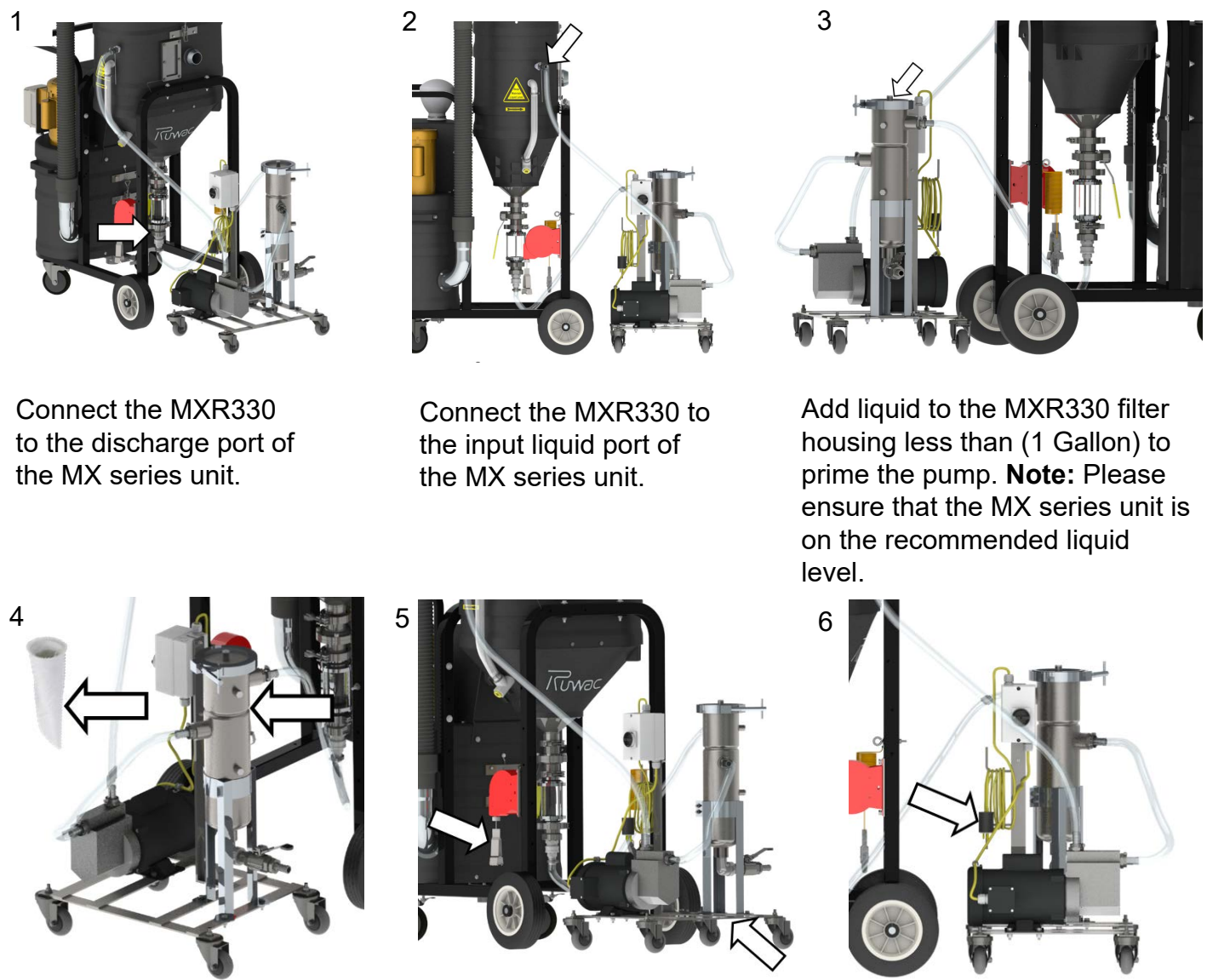
BONDING

Two machines that are independently bonded may not have the same electrical potential. It has been documented that even though the machines are independently grounded, a static discharge can travel from one ground machine to another. In order to ensure that all equipment has the same potential and is equally grounded, your application may require that the machines be bonded together. The MX series retractable grounding cable must be attached as shown above on picture #1.

**Only Ruwac accessories should be used with your MXR330 unit. Using any other accessories will compromise the safety of your machine, potentially rendering creating a dangerous environment.**

### MXR330 INSTRUCTIONS: START-UP OPERATION

**CAUTION:** Before the connection process on the MXR, please make sure that the MX360 is powered off

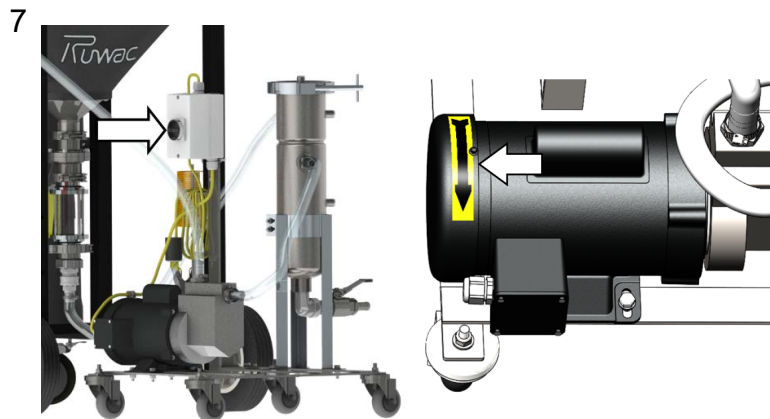


- Connect the MXR330 to the discharge port of the MX series unit.
- Connect the MXR330 to the input liquid port of the MX series unit.
- Add liquid to the MXR330 filter housing less than (1 Gallon) to prime the pump. **Note:** Please ensure that the MX series unit is on the recommended liquid level.
- Insert filter to the MXR330 filter housing. **Note:** After inserting the filter, ensure that the top flange cover is properly closed. Also, ensure that the filter is installed below the inlet liquid port and above the outlet liquid port of the MXR330 filter housing.
- Connect the ground reel cable from the MX series unit to the frame of the MXR330.
- Connect the MXR330 unit to a proper power source.

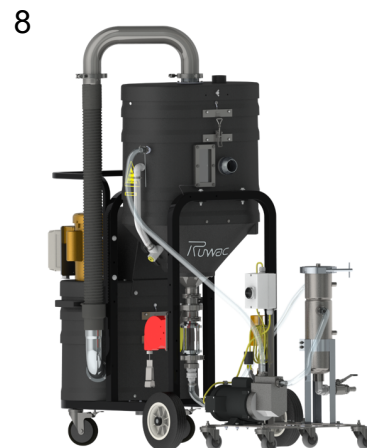
**CAUTION:** Always check that the motor is rotating in the indicated direction upon start-up. Power polarity can change from power supply to power supply. Operation under a reversed polarity will damage the motor or the machine.

## MXR330 INSTRUCTIONS: START-UP OPERATION (cont'd)

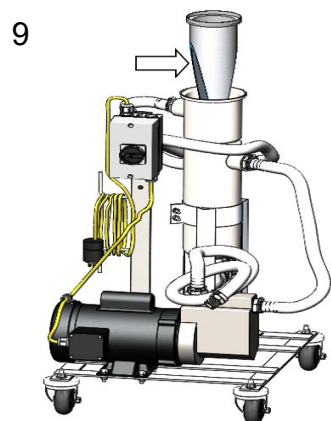
**CAUTION:** Before the connection process on the MXR, please make sure that the MX360 is powered off



Turn on the Self-Priming MXR330 Pump. Check that the motor is spinning in the indicated direction (CLOCKWISE).



If motor is spinning properly, the unit is ready for operation.

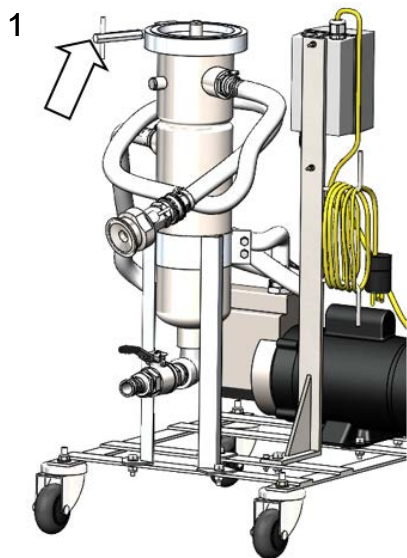


Run system for 30 minutes. Occasionally stop to check the filter bag to see if it's full. Remove the filter bag and let it drip dry for proper disposal. Depending on how much solids are in your MX series unit, you might need more than 1 filter.

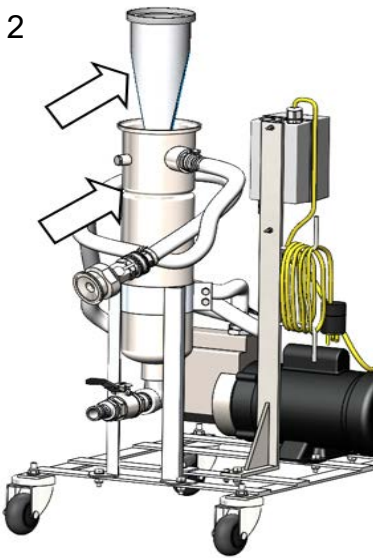
**CAUTION:** Always check that the motor is rotating in the indicated direction upon start-up. Power polarity can change from power supply to power supply. Operation under a reversed polarity will damage the motor or the machine.



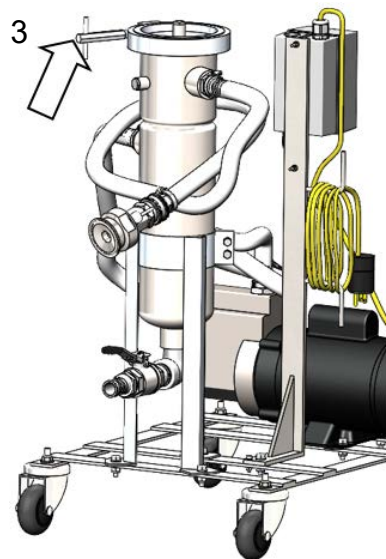
## MXR330 INSTRUCTIONS: FILTER BAG INSTALLATION



For filter installation,  
remove the top cover.



Remove the old filter and  
replace with the new filter.  
**Note:** Please ensure that  
the filter is installed below  
the inlet liquid port and  
above the outlet liquid  
port of the MXR330 filter  
housing.

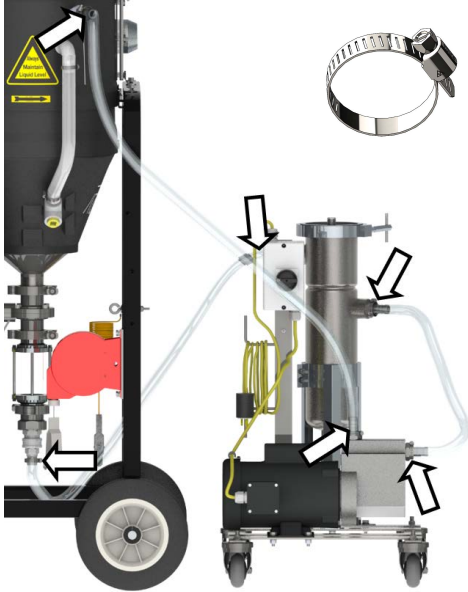


Place back the top  
cover and ensure that  
the top cover is  
properly closed.

**Note:** Do not store unit with waste material and / or liquid inside.

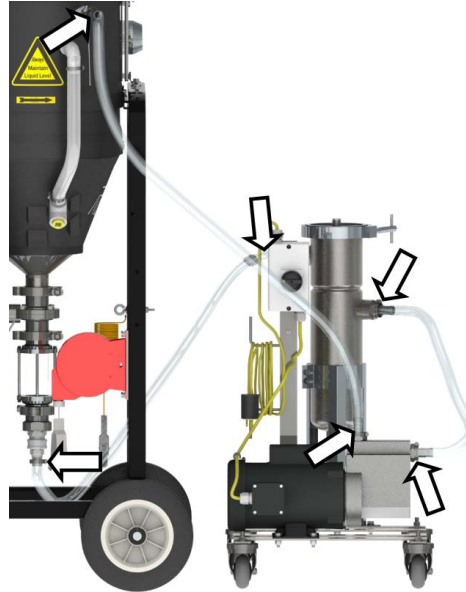
## MXR330 INSTRUCTIONS: HOSE REPLACEMENT

1



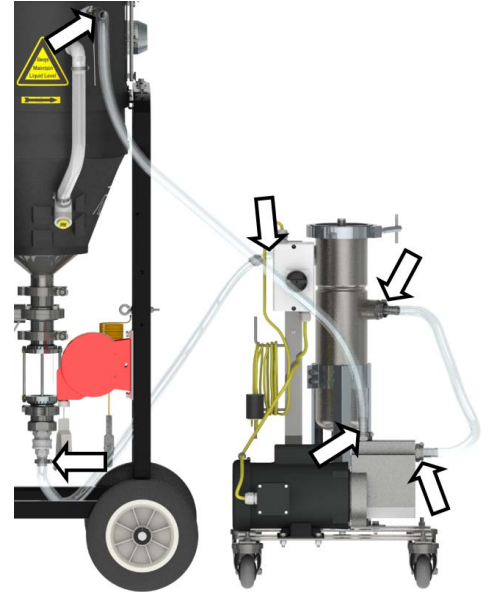
Loosen all hose clamps  
and remove hoses.

2



Replace hoses and re-  
attach hose clamps.

3



Re-attach each end of  
hoses to NPT adapters.

## MXR330 INSTRUCTIONS: PUMP INSPECTION

Please read and save this Repair Parts Manual. Read this manual and the General Operating Instructions carefully before attempting to assemble, install, operate or maintain the product described. Protect yourself and others by observing all safety information. The Safety Instructions are contained in the General Operating Instructions. Failure to comply with the safety instructions accompanying this product could result in personal injury and/or property damage! Retain instructions for future reference. RUWAC reserves the right to discontinue any model or change specifications at any time without incurring any obligation.

Periodic maintenance and inspection is required on all pumps to ensure proper operation. Unit must be clear of debris and sediment. Inspect for leaks and loose bolts. Failure to do so voids warranty.

# 1-Inch Self-Priming Centrifugal Pumps

## DESCRIPTION

These stainless steel with Viton seal pumps are self-priming units designed for transferring perchlorethylene and other non-flammable liquid chemicals. Handle liquids from 40° F to 180° F (4° C to 82° C). Units should be used only with non-abrasive, non-flammable liquids that are compatible with pump component materials.

## MAINTENANCE

### ▲ WARNING

**Make certain that power source is disconnected before attempting to service or disassemble any components! If power disconnect is out-of-sight, lock it in open position and tag it to prevent application of power.**

## MECHANICAL SEAL REPLACEMENT

Refer to Figures 1 and 2.

**IMPORTANT:** Always replace both seal seat and seal head to ensure proper mating of mechanical seal components!

**NOTE:** It is not necessary to remove piping from pump casing. The motor and impeller assembly are removed from back of casing.

1. Drain pump before disassembling. Unscrew pipe plug (Ref. No. 13) to drain most of liquid; some will be left in bottom.
2. Unthread hex nuts (Ref. No. 4) and remove pump casing (Ref. No. 12) and o-ring (Ref. No. 7) from casing cover (Ref. No. 6).
3. To unscrew impeller (Ref. No. 11), turn counterclockwise (CCW) facing impeller. Unscrew acorn nut (Ref. No. 16) and o-ring gasket (Ref. No. 15) before unscrewing impeller.

**NOTE:** A screwdriver slot or two flats for use with an open end 7/16" wrench are provided at rear of motor shaft (remove bearing cap for access). To hold motor shaft from turning, either insert a large screwdriver blade into the slot, or use a 7/16" wrench across the flats.

4. Unthread cap screws (Ref. No. 5) and remove motor adapter (Ref. No. 3). Seal head (Ref. No. 9) and impeller shims (Ref. No. 10) will come loose at this time. **NOTE:** Casing cover will still be attached to motor adapter.

**IMPORTANT:** Retain impeller shims for use when reassembling unit.

5. Push seal seat (Ref. No. 8) from casing cover with screwdriver.
6. Clean adapter recess before inserting a new seal seat.
7. Carefully wipe polished surface of new seal seat with a clean cloth.
8. Wet outside of rubber portion of seal seat with a light coating of soapy water.
9. Press new seal seat squarely into cavity in casing cover. If seal seat does not press squarely into cavity, it can be adjusted into place by pushing on it carefully with a piece of pipe or dowel. Always use a piece of cardboard between pipe and seal seat to avoid scratching seal seat. (This is a lapped surface and must be handled very carefully).
10. After seal seat is in place, be sure that it is clean and has not been marred.
11. Using a clean cloth, wipe shaft and make certain that it is perfectly clean.
12. Carefully guide motor shaft through seal seat. Secure motor adapter on motor mounting face.
13. Apply a light coating of soapy water to inside rubber portion of seal head

and slide onto shaft (with sealing face first) so that rubber portion is just up over shaft shoulder.

### ▲ CAUTION

**Do not touch or wipe face of polished part of the seal head.**

14. Replace any impeller shims which may have been removed in disassembly (see "Shim Adjustment").
15. Screw impeller back in place, tightening until it is against shaft shoulder. Replace o-ring gasket and acorn nut.
16. Remount o-ring and pump casing on casing cover.

**IMPORTANT:** Always inspect o-ring gasket for cracks or cuts when unit is disassembled. Replace if damaged.

## SHIM ADJUSTMENT

When installing a replacement impeller (Ref. No. 11) or motor (Ref. No. 1), it may be necessary to adjust number of shims (Ref. No. 10) to ensure proper running clearance between impeller and casing. Proceed as follows:

**NOTE:** A proper running clearance is less than 0.010.

1. For impeller replacement, add one 0.010" shim in addition to shims removed originally.
2. For motor replacement, add two 0.010" shims in addition to shims removed during disassembly.
3. Reassemble pump using "Mechanical Seal Replacement" for reference.

**IMPORTANT:** Be sure that casing is in place and check shaft to make sure it is turning freely (use screwdriver slot or two flats at rear of motor to turn shaft). If it turns freely, check to ensure that casing cover and casing are fitted metal-to-metal where they meet on outside. If they are not metal-to-metal, tighten the hex nuts (Ref. No. 4) and recheck shaft for free turning. Tighten, carefully turning shaft while tightening so that motor bearings are not damaged in event that too many shims were installed. If shaft seizes before fasteners are completely tight, disassemble pump and remove one shim and repeat reassembly.

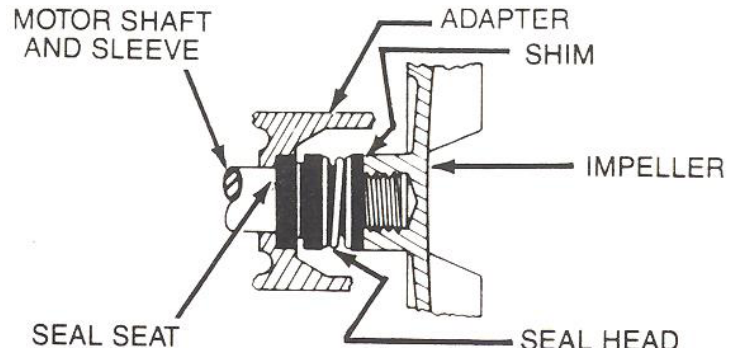


Figure 1 - Mechanical Seal Replacement

MXR330 INSTRUCTIONS: PUMP INSPECTION (cont'd)

1-Inch Self-Priming Centrifugal Pumps

*\*For Repair Parts, contact RUWAC*

Please provide following information:  
-Model Number  
-Serial Number (if any)  
Part description and number as shown in parts list

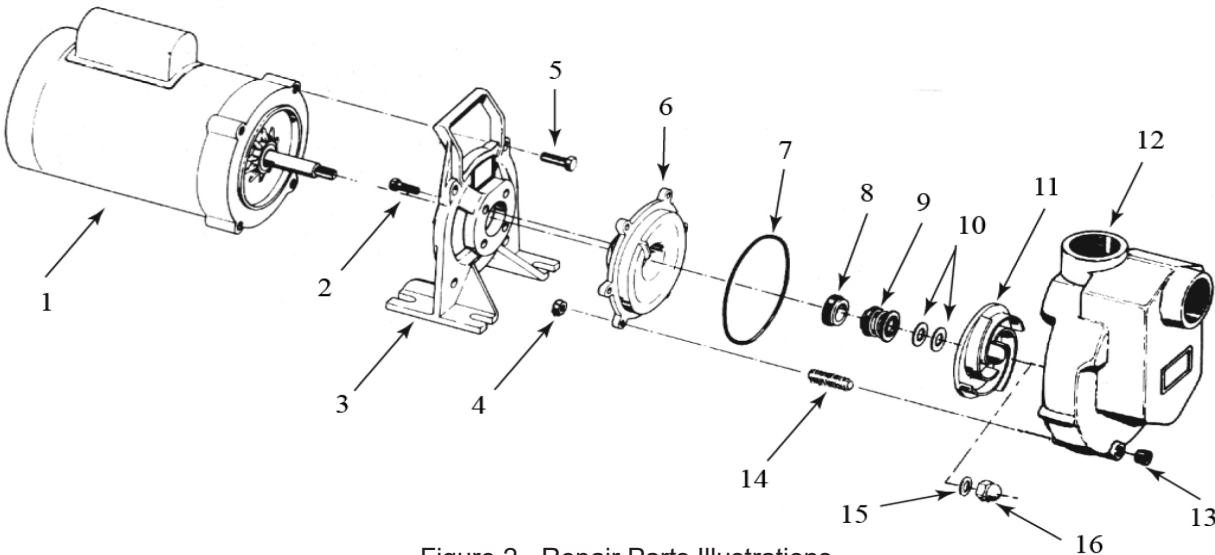


Figure 2 - Repair Parts Illustrations

Repair Parts List

Ref No.	Description
1	Motor - 1 Phase ODP Motor - 3 Phase ODP Motor - 1 Phase TEFC Motor - 3 Phase TEFC
2	Fastener
3	Adapter
4	Fastener
5	Fastener
6	Casing Cover
7	Casing O-Ring - Viton
8 & 9	Shaft Seal Assembly - Viton
10	Impeller Shim Kit

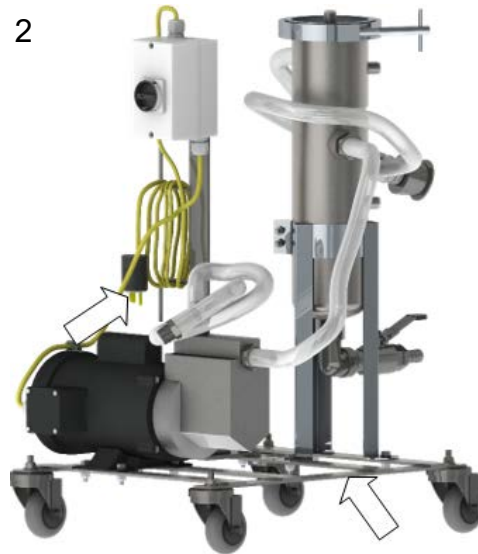
Ref No.	Description
11	Impeller
12	Casing
13	Pipe Plug
14	Fastener
15	Impeller O-Ring - Viton
16	Impeller Fastener
KIT	O-Ring Kit - Viton (includes Ref. Nos. 7 and 15)

## INSPECTION & MAINTENANCE OF MXR330 ELECTRICAL GROUNDING

To operate safely, the MXR330 must be properly grounded. The grounding system of the unit can be tested by checking for electrical continuity as shown below. Grounding should be checked before each use and after the machine has been taken apart for any maintenance.



The ground reel cable from the MX series unit to the frame of the MXR330.



Power cord line ground to the frame.

\*\* To check continuity of any carbon impregnated components, only a Megohm meter shall be used should measure less than 1 m $\Omega$

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
<b>Water/Air Leak and Insufficient Pressure</b>	<ul style="list-style-type: none"> <li>- Seals leaking</li> <li>- Loose parts</li> <li>- Open valve</li> </ul>	<ul style="list-style-type: none"> <li>- Check and replace if needed. Contact your Ruwac representative for replacement.</li> </ul>
<b>Increased pressure</b>	<ul style="list-style-type: none"> <li>- Hose blocked</li> <li>- Filter clogged</li> </ul>	<ul style="list-style-type: none"> <li>- Unplug hose.</li> <li>- Follow filter inspection procedure, Section IV.</li> </ul>
<b>Sludge Recirculation</b>	<ul style="list-style-type: none"> <li>- Damaged filter</li> <li>- Miss placing Filter</li> <li>- Improperly seated seals</li> </ul>	<ul style="list-style-type: none"> <li>- Follow filter inspection procedure, Section IV.</li> </ul>
<b>Unusual or High Pitched Noises</b>	<ul style="list-style-type: none"> <li>- Pump bearings</li> </ul>	<ul style="list-style-type: none"> <li>- Follow relevant pump inspection procedure, Section IV. Check pump bearings for noise by hand.</li> </ul>

**ACCEPTANCE:** The terms and conditions of sale set forth herein apply to any order accepted or acknowledged by RUWAC, Inc. Buyer's acceptance of RUWAC'S proposal or delivery of all or any part of the goods covered hereunder constitutes acceptance of the terms and conditions of sale contained herein, and RUWAC hereby rejects any additions to or modification to these terms and conditions. Any representations, promises, warranties, or statements by RUWAC or its agents that differ in anyway from these terms and conditions shall be given no force or effect. No contract is final until accepted in writing by RUWAC at its corporate office in Holyoke, Massachusetts.

**PRICES:** Prices quoted orally expire the same day they are made unless accepted in writing on that day or confirmed by written communication by RUWAC. Written price quotations are guaranteed for thirty (30) days after the date issued, but may be terminated by written notice within that period. After thirty (30) days, any written price quotations are subject to adjustment to reflect prices in effect at the time of shipment, including any changes in packing, storage, or shipping charges. This order or proposal includes only the equipment specified herein, and does not include freight or installation of RUWAC equipment. All prices are F.O.B. RUWAC'S plant in Holyoke, Massachusetts and are exclusive of all taxes, levies, and duties that may be assessed in connection with the sale or delivery of goods, and Buyer shall be responsible for all such taxes, levies, and duties. In the event RUWAC pays any such tax, levy, or duty, Buyer shall promptly reimburse RUWAC therefor. Any packaging requirements other than RUWAC'S standard packaging and commercial container will be invoiced as an extra charge.

**PAYMENT:** Payment is due in full thirty (30) days after the date of invoice. All invoices paid after the due date will be assessed a late payment charge of one and half percent (1.5%) per month or any portion thereof, or the maximum amount allowed by applicable law, whichever is less. Buyer shall be responsible for all costs of collection, including reasonable legal fees. Sales on the foregoing terms are subject to the approval of RUWAC'S credit department and may be changed at any time at RUWAC'S sole discretion. If RUWAC has reasonable grounds with respect to Buyer's ability or willingness to make timely payments for the goods. RUWAC may at any time suspend performance, decline to ship, or require advance payment in cash or other adequate assurance satisfactory to RUWAC.

**SHIPMENTS AND DELIVERY:** RUWAC shall use its reasonable efforts to meet all shipment or delivery dates recited in RUWAC'S proposal or in Buyer's order but any such dates are estimated only and are not guaranteed. RUWAC shall have no liability to Buyer for damages or penalties, direct or indirect, for any delay in shipment or delivery, whether such delay is minor or substantial, nor shall Buyer have the right to declare a breach of contract because of any such delay. In any event, delivery schedules are based upon the effective date of the order and are subject to prompt receipt by RUWAC of all necessary down payments, information and instructions from Buyer, including any required approval of drawings. RUWAC shall have the right to make partial shipments, and invoiced covering the same shall be payment terms hereof. RUWAC will attempt to ship in accordance with Buyer's instructions, but RUWAC will make the final selection of a method of shipment and a carrier unless Buyer clearly and conspicuously specifies that shipment must be by a particular method of carrier. RUWAC is not responsible for damage or loss in transit, and all such claims must be by Buyer directly against the carrier.

**CHANGE ORDERS:** RUWAC shall not be obligated to make any changes in or additions to the scope of the work which are initiated by Buyer or result from circumstances beyond RUWAC'S control unless there is an equitable adjustment in price and or delivery.

**CANCELLATION, SUSPENSION OR DELAY:** In the event Buyer requests or causes a cancellation, suspension or delay in any RUWAC'S work under this proposal or order based thereon, Buyer shall indemnify and pay to RUWAC all appropriate charges, including but not limited to any costs, expenses, and commitments incurred by RUWAC up to the date of receipt of notice of such cancellation, suspension or delay, plus RUWAC'S overhead and reasonable profit. If shipment is delayed on account of Buyer, the purchase price shall be due and payable as if delivery had been made. Additionally, all charges related to storage, disposition and/or resumption of work, at RUWAC'S plant or elsewhere, shall be for Buyer's sole account and Buyer thereto shall assume all risks incidental.

**CLAIMS: NOTICE OF DEFECTS:** Buyer shall give written notice of rejection of any shipment or portion thereof within thirty (30) days after the date of shipment specifying the reasons therefor. Failure to give such notice shall be deemed a waiver of any right of rejection and any claim with respect thereto (except as to claims under the warranty) and shall be deemed an acceptance of such shipment. Buyer shall set aside and hold rejected goods without further processing until RUWAC has an opportunity to inspect and advise of the disposition, if any, to be made of such goods. In no event shall any rejected goods be returned reworked, or scrapped by Buyer without the express written authorization of RUWAC.

**INSPECTION OF EQUIPMENT:** RUWAC shall have the right to inspect, after prior notices, the equipment supplied by it when in operation. If Buyer requires, RUWAC shall execute an appropriate secrecy agreement.

**CONFIDENTIALITY:** All proposals, drawings, diagrams, specification, pricing, and other materials relating to the goods included are the property and confidential information of RUWAC. Buyer shall not disclose such material or information without the written approval of RUWAC.

**BACK CHARGE:** RUWAC will pay claims for expenses of Buyer relating to labor and/or material supplied by Buyer only if (a) RUWAC is advise in writing before such expenses are incurred (2) RUWAC gives Buyer its prior written consent to the supply of such labor and/or material by buyer.

**LIMITED WARRANTY:** RUWAC warrants that new equipment which are complete units and are sold and/or manufactured by RUWAC, Inc. will be free from defects in material and workmanship for a period of 18 months from date of shipment or 12 months from date of start-up, whichever comes first. RUWAC warrants that replacement parts sold hereunder will be free from defects in material and workmanship for a period of 120-days after the date of shipment. RUWAC machines that have been completely re-built at the factory will carry a 180-day warranty from date of shipment. All field repairs by authorized RUWAC service personnel are covered by a 120-day parts only warranty. RUWAC, Inc. will not assume any responsibility under the terms of this limited warranty on equipment, which have not been paid for in full. This warranty does not apply to any equipment that has been disassembled, repaired, or otherwise altered by any person without the written authorization of RUWAC'S service department, nor does it apply to any product that has been subject to failure due to corrosive or abrasive attack, misused, damaged, or improperly installed, nor does it apply to motors, controls, and components not manufactured by RUWAC, Inc. Motors, controls, and other Sub vendor's components therefor are warranted only to the extent of the manufacturer's warranty. All warranty work on such products must be authorized by RUWAC, Inc. and must be performed in an authorized shop as designated by the manufacturer. RUWAC sole liability and buyer's sole and exclusive remedy hereunder is the replacement or repair at RUWAC'S option of products not complying with this warranty. Such repair or replacement shall be F.O.B. RUWAC'S factory, and RUWAC reserves the right to invoice all expenses incurred when repairs are made in the field at the request of the customer, except as specifically set forth herein, RUWAC makes no warranty express or implied, with respect to the products and/or service supplied hereunder, this warranty is in lieu of and excludes all other warranties, including without limitation, any warranty of merchantability, fitness for a particular purpose, or conformance to purchaser's specifications.

**LIMITATION OF LIABILITY:** RUWAC'S responsibility with respect to the goods and RUWAC'S obligations related thereto should in no event exceed the purchase price of the goods. RUWAC shall not be liable to Buyer for any special incidental, indirect, or punitive damages for any reason whatsoever, including, but without limitation damages in the form of (a) loss of profits, revenues, or anticipated savings resulting from the failure of the equipment to meet specifications or warranties (b) damages suffered by Buyer as a result of loss of production facilities or equipment (c) cost of replacement equipment (d) damages suffered by customers of the Buyer (e) any fines or penalties assessed for failure to comply with any law or government regulations.

**REPAIR OF GOODS EXPOSED TO HAZARDOUS, TOXIC, OR INFECTIOUS MATERIAL:** Buyer shall ensure that any goods submitted by Buyer or any of its customers to RUWAC for repairs or other service have been decontaminated and cleaned (including sterilization, if appropriate) of any hazardous, toxic or infectious materials, including without limitation any materials listed by the Environmental Protection Agency, OSHA, or any applicable state law as deserving or requiring special treatment. Upon RUWAC'S request, Buyer or its customer shall certify in writing that such goods contain no such hazardous, toxic, or infectious materials, and that such decontamination has taken place in accordance with accepted parties and in accordance with all applicable laws and regulations. If special safety equipment is required to protect RUWAC'S service personnel from any such hazardous, toxic, or infectious materials during field service work or otherwise. Buyer shall ensure that such safety equipment is provided and that the personnel are properly instructed. The provision of this paragraph shall apply to all work to be performed by RUWAC'S service personnel at any time, whether or not covered by warranty. Buyer shall defend and indemnify RUWAC for any and all losses, liabilities, expenses, and damages (including attorneys' fees) arising out of any failure of buyer or its customer to comply fully with the terms of this paragraph.

**BUYER SUPPLIED DATA:** Buyer acknowledges that RUWAC has relied upon all specifications and other data supplied by Buyer to RUWAC in the selection and design of the equipment and the preparation of this proposal. In the event the site operating conditions differ from those represented by Buyer and relied upon by RUWAC, any warranties or performance guarantees contained herein affected by such conditions shall be null and void, unless otherwise mutually agreed upon in writing.



## VI. \_\_\_\_\_ Terms & Conditions

**REMEDIES OF SELLER:** In addition to any other remedies of RUWAC provided hereby or by law, in the event Buyer becomes bankrupt, insolvent, assigns assets for the benefit of creditors or its financial condition has substantially deteriorated, RUWAC may, at its sole option, declare a breach of contract, stop all work hereunder or demand payments in advance as security for its performance hereunder.

**FACTIONS: GOVERNING LAW:** Any dispute, controversy, or claim against RUWAC with respect to the goods or any of RUWAC'S obligations related thereto must be commenced within one year from the date of shipment. All contract between Buyer and RUWAC shall be governed by and construed in accordance with the laws of the state of Massachusetts except that body of laws controlling conflict of laws.

**BONDS:** In addition to the price specified herein, Buyer shall pay the cost of any bonds, which Buyer requires RUWAC to obtain.

**ENTIRE AGREEMENT:** These terms and conditions, together with the provisions of the proposal constitute the entire agreement between the parties pertaining to the goods, and they supersede any prior or contemporaneous agreements, representations, or understandings between the parties. No waiver or modification of these terms and conditions is binding unless such waiver or modification is set out in writing signed by an authorized manager or officer of RUWAC. RUWAC'S failure to strictly enforce any right on one occasion does not constitute a waiver of that or any on any other occasion.

## DISPOSING SLUDGE WASTE

When disposing sludge from a water/oil-based wet collector such as a Ruwac immersion separator, the National Fire Protection Association has outlined a list of standards which operators should follow through their document NFPA 484: Standard for Combustible Metals [most updated edition]. See below for some NFPA's recommended practices on how to safely contain, empty and dispose of sludge material:

- Sludge from water wet-type dust collectors should be removed at least once each day or more if usage and conditions require you to do so.
- Sludge should be collected in covered, vented metal containers during the transportation process.
- Disposal arrangements for sludge from wet-type dust collectors shall be planned in advance with the proper material handlers and follow all applicable federal, state and local regulations.
- Material removed from wet-type dust collectors is permitted to be mixed with inert materials such as sand and others nonreactive in a volume ration of five parts inert material to one part metal dust.
- The recycling or disposal of sludge should be in accordance with all federal, state and local regulations.
- Smoking or open flames on the disposal grounds should be prohibited during the disposal process.
- For more information on determining the characterization of your hazardous sludge waste, the NFPA points to 40 CFR 261 Subpart B of the Title 40 of Protection of Environment handbook. Use information as location reference only.